

**NASA Space Shuttle Program (SSP)
Mission Management Team (MMT) STS-114
Minutes of Meeting
August 3, 2005**

The STS-114 Flight Day 9 (FD9) MMT meeting, chaired by Deputy Manager, SSP, JSC-MA/Wayne Hale, was held August 3, 2005 at 1:00 p.m. Central Time (CT), Johnson Space Center (JSC), Building 30, Room 118. Member organizations supported at JSC and remote sites by video teleconference. Roster sheets for those that participated in this meeting are available. Following are highlights of the issues that were discussed.

A. Introduction – MMT Chairman

Mr. Hale gave a few introductory remarks, and reviewed the items to be covered in today's meeting.

B. Flight Status – Mission Operations Directorate (MOD) Failure Summary

JSC-DA/R. E. Castle summarized FD9 mission events, as follows:

- 1) Extravehicular activity (EVA) 3 was completed.
- 2) External Stowage Platform (ESP)-2 has been installed.
- 3) The orbiter boom sensor system (OBSS) survey of the development test objective (DTO) box was completed.
- 4) Materials International Space Station Experiment (MISSE) 5 was installed, and imagery of P6 beta gimbal assembly (BGA) and Floating Potential Probe (FPP) was taken.
- 5) At the request of the crew, rotary joints motor controller/coupler (RJMC) removal was not attempted.
- 6) Focused inspection of the window blanket (RPM-140) was completed after EVA 3.

Overall, the mission is proceeding within the nominal timeline. A decision is needed from the MMT on MPLM activities on FD10 as they relate to possible EVA to remove the window blanket. MOD recommends not performing the window blanket EVA if any other option is available.

C. Orbiter and GFE Status

JSC-MV/Steve Poulos stated that the fourth latch on the tools stowage assembly (TSA) is not engaged. The TSA is certified for three of the four latches, but if another latch were to fail, the TSA could break free inside the Shuttle cargo bay.

D. Mission Integration Status

JSC-MO/Robert Galvez, STS-114 Flight Manager, in relating consumables transfer activity, reported that 1) approximately 62% of the transfer of re-supply items to ISS was

completed; 2) 29 lbs of nitrogen (N₂) have been transferred; and 3) 12 CWCs have been transferred prior to FD9 and one was planned to be done on FD9.

The ISS Program would like to transfer around 25 lbs of oxygen (O₂), if possible. Mr. Galvez stated that his team is working on potentially providing two of three EVA digital camera flash assemblies to the Station. MPLM weight increased due to additional hardware requirements. They are still working on increasing the Payload General Support Computer (PGSC) laptop complement to three to leave on the Station, and are awaiting crew input on this. The RAM Burn Observation (RAMBO) payload requested a dedicated orbital maneuvering system (OMS) burn over Maui.

E. Integrated Anomalies/Issues Summary

JSC-MS/John Muratore presented the System Engineering and Integration (SE&I) Integrated Anomalies list, located on the MMT website at:

http://sspweb.jsc.nasa.gov/webdata/mmtmeeting/flt/114/050803.1300_D9/12_Integrated_Anomalies_Issues_Summary.pdf

F. Action 114-MMT-010 Assess EVA Options for Potential Advanced Flexible Reusable Surface Insulation (AFRSI) Blanket Repair

Action 114-MMT-010 to assess EVA options for potential AFRSI blanket repair was closed. JSC-DA8/Kelly Beck discussed tools and techniques they investigated for reducing the window blanket. Contamination concerns from the batting material are being evaluated. Although the basic procedure would be to cut slits in the blanket to reduce the size of debris if the blanket were to detach during entry, the EVA team would prefer to avoid performing the EVA if there are other acceptable options because of the concerns noted. It was decided to not perform Mated Option 1 (MPLM and EVA prep on FD10) since the timeline did not support its preparation. A decision is needed from the MMT on the MPLM vs. transfer/off-duty day and the O₂ repressurization.

The MMT assigned Action 114-MMT-011 to Safety and Mission Assurance (S&MA) to provide a risk analysis of performing EVA4 to modify the blanket configuration. This action is due August 4, 2005.

G. Blanket Damage Resolution

JSC-MV5/Justin Kerr, BNS/Dan Bell, and JSC-EG/Ray Gomez discussed window blanket damage and debris transport analysis (DTA). The DTA shows that the OMS pod and speed brake rudder could be damaged if the blanket comes off in a large piece rather than in smaller pieces. Structural assessments are being performed with NASTRAN and DYNA computer programs, and preliminary analysis shows that damaging impact threats are all below Mach 5.0. An Ames wind tunnel test plan was presented, which was later revised and discussed by JSC-MS/John Muratore. The results of this test are critical to making a recommendation to the MMT.

JSC-MS2/Bob Ess presented the probability of impacts to the vehicle (tail, OMS, and any other vehicle location) assuming the blanket is released at Mach numbers from 6 down to 1.0. Mr. Hale noted that the percentages of impacts to areas where significant damage could occur were fairly low (up to about 6.5%), and that there is a conservative assumption that the blanket is released as one large piece.

In response to an inquiry, BNS/Jim Harder explained that the beta angle of the Shuttle cannot be changed to lessen the chance of a debris hit to the vehicle, but said that they could close the speed brake rudder at about Mach 0.5 to reduce the chance of a hit to that area.

The results of wind tunnel testing will be discussed at the MMT on August 4, 2005.

H. Management Decisions Summary

The MMT declared that in order to preserve the window blanket EVA option, the SSP would not transfer surplus O₂ to the Station.

I. Conclusion

Mr. Hale indicated that the next MMT is scheduled for 9:00 a.m. CDT, Thursday, August 4, 2005.

Detailed information on all assigned actions for this meeting can be found on the MMT Action log, located on the MMT web site at:
http://sspweb.jsc.nasa.gov/webdata/mmtmeeting/flt/114/050803.1300_D9/Actionlog.pdf

The MMT web site is available at <http://sspweb.jsc.nasa.gov/mmt/>.

The meeting adjourned at 4:47 p.m. CT.

MMT: August 3, 2005

Minutes Prepared By:

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Minutes Writer	Date

Approvals:

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MMT Secretary	Date

<u>J. J. Conwell</u>	<u>August 3, 2005</u>
Customer Support Room (CSR) Duty Officer	Date

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